TRANSPORTATION RESEARCH

List of Contents and Author Index

Volume 1C, 1993

PERGAMON PRESS
NEW YORK · OXFORD · SEOUL · TOKYO

Transportation Research

an international journal **Part C: Emerging Technologies**

Editor-in-Chief

STEPHEN G. RITCHIE
Institute of Transportation Studies, University of California, Irvine, CA 92717, U.S.A.

Associate Editors

CHRIS HENDRICKSON
Department of Civil Engineering, Carnegie Mellon University, Pittsburgh, PA 15213, U.S.A.

HANI S. MAHMASSANI
Department of Civil Engineering, ECJ 6.810, University of Texas, Austin, TX 78112, U.S.A.

PRAVIN VARAIYA
Department of Electrical Engineering and Computer Sciences, University of California, Berkeley, CA 94720, U.S.A.

Editorial Advisory Board

K. W. AXHAUSEN, London, U.K.
PETER W. BONSALL, Leeds, U.K.
DAVID E. BOYCE, Chicago, IL, U.S.A.
DANIEL BRAND, Boston, MA, U.S.A.
DARCY BULLOCK, Baton Rouge, LA, U.S.A.
ENNIO CASCETTA, Naples, Italy
TEODOR CRAINIC, Montreal, Canada
M. CREMER, Hamburg, Germany
JOSE CUENA, Madrid, Spain
CARL HAAS, Austin, TX, U.S.A.
MASAKAZU IGUCHI, Tokyo, Japan
YASUNORI IIDA, Kyoto, Japan
R. JAYAKRISHNAN, Irvine, CA, U.S.A.
ALLAN KIRSON, Northbrook, IL, U.S.A.
REINHART D. KÜHNE, Stuttgart, Germany
RICHARD C. LARSON, Cambridge, MA, U.S.A.
SUE MCNEIL, Pittsburgh, PA, U.S.A.
DAVID MARTINELLI, Morgantown, WV, U.S.A.
VITO MAURO, Turin, Italy
AMEDEO ODONI, Cambridge, MA, U.S.A.
MARKOS PAPAGEORGIOU, Munich, Germany
JOHN W. O. POLAK, Oxford, U.K.
JOSEPH N. PRASHKER, Haifa, Israel
STEVEN E. SCHLADOVER, Richmond, CA, U.S.A.
YORGOS J. STEPHANEDES, Minneapolis, MN, U.S.A.
SADAYUKI TSUGAWA, Ibaraki, Japan
NIGEL WALL, Ipswich, U.K.
C. MICHAEL WALTON, Austin, TX, U.S.A.

Production Editor: Lauren Levey, Pergamon Press, Tarrytown, New York.

Publishing, Subscription, and Advertising Offices: Pergamon Press Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, U.S.A., E-mail Address: ESUK.USA@ELSEVIER.COM; and Pergamon Press Ltd., Headington Hill Hall, Oxford OX3 0BW, England.

Published Quarterly. Annual Institutional Subscription Rates 1994: North, Central and South America, US $260.00, Rest of World £168.00. Associated Personal Subscription Rates are available on request for those whose institutions are library subscribers. Sterling prices exclude VAT. Non-VAT registered customers in the European Community will be charged the appropriate VAT in addition to the price listed. Prices include postage and insurance and are subject to change without notice.

Cover design by Edward Ruscha

PERGAMON PRESS

HEADINGTON HILL HALL, OXFORD OX3 0BW, ENGLAND
660 WHITE PLAINS ROAD, TARRYTOWN, NY 10591-5153, U.S.A.

Transpn. Res.-C, Vol. 1, No. 4, pp. VII–IX, 1993
Printed in Great Britain.

0968-090X/93 $6.00 + .00
© 1993 Pergamon Press Ltd.

LIST OF CONTENTS

Volume 1C, No. 1, March 1993

Stephen G. Ritchie 1 Foreword

Gang-Len Chang, Peng-Kuan Ho, and **Chien-Hung Wei** 3 A dynamic system-optimum control model for commuting traffic corridors

Yorgos J. Stephanedes and **Eil Kwon** 23 Adaptive demand-diversion prediction for integrated control of freeway corridors

Michael G. H. Bell and **David Brookes** 43 Discrete time-adaptive traffic signal control: The calculation of expected delays and stops

Thanavat Junchaya and **Gang-Len Chang** 57 Exploring real-time traffic simulation with massively parallel computing architecture

Samer Madanat 77 Optimal infrastructure management decisions under uncertainty

Randolph W. Hall 89 Non-recurrent congestion: How big is the problem? Are traveler information systems the solution?

I Forthcoming Papers

Volume 1C, No. 2, June 1993

SPECIAL ISSUE

PRODUCTIVITY AND PERFORMANCE

Woodrow Barfield and **Fred Mannering** 105 Behavioral and human factors issues in advanced traveler information systems

Joseph L. Schofer, Asad Khattak and **Frank S. Koppelman** 107 Behavioral issues in the design and evaluation of advanced traveler information systems

Thomas A. Dingus and **Melissa C. Hulse** 119 Some human factors design issues and recommendations for automobile navigation information systems

Walter W. Wierwille 133 Demands on driver resources associated with introducing advanced technology into the vehicle

Peggy Crosby, Jan Spyridakis, Judy Ramey, Mark Haselkorn and **Woodrow Barfield** — 143 A primer on usability testing for developers of traveler information systems

David Watling and **Tom van Vuren** — 159 The modelling of dynamic route guidance systems

Loveday Conquest, Jan Spyridakis, Mark Haselkorn and **Woodrow Barfield** — 183 The effect of motorist information on commuter behavior: Classification of drivers into commuter groups

I Forthcoming Papers

Volume 1C, No. 3, September 1993

Stephen G. Ritchie and **Ruey L. Cheu** — 203 Simulation of freeway incident detection using artificial neural networks

Yorgos J. Stephanedes and **Athanassios P. Chassiakos** — 219 Freeway incident detection through filtering

Darcy Bullock, James Garrett, Jr., and **Chris Hendrickson** — 235 A neural network for image-based vehicle detection

Haris N. Koutsopoulos and **Haiping Xu** — 249 An information discounting routing strategy for advanced traveler information systems

I Forthcoming Papers

Volume 1C, No. 4, December 1993

Chandra R. Bhat, Joseph L. Schofer, Frank S. Koppelman, and **Russell C. Bautch** — 265 Driver recruitability and Advanced Traveler Information System experiments

Mohamed S. Kaseko and **Stephen G. Ritchie** — 275 A neural network-based methodology for pavement crack detection and classification

Gary S. Spring — 293 Validating expert system prototypes using the Turing Test

Haitham Al-Deek and **Adib Kanafani** — 303 Modeling the benefits of Advanced Traveler Information Systems in corridors with incidents

I Forthcoming Papers

V Volume 1 Contents and Author Index

Reproduced with the permission of Pergamon Press Inc., by University Microfilms Inc. Duplication or resale without permission is prohibited.